

What we claim is:

1. A level measuring instrument operating with microwaves in order to measure a level of a filled product (11) in a container (3), having
  - a microwave generator (13),
  - 5 -- for producing microwaves at frequencies of greater than 40 GHz,
  - an antenna (9, 9a) which is powered by the microwave generator (13) and is used to transmit the microwaves in the direction of the
  - 10 filled product,
  - an antenna (9, 9b) which is used to receive microwaves reflected at a filled product surface, and
  - a reception and evaluation circuit (15)
  - 15 -- which ascertains a transit time for the microwaves and uses this to determine the present level.

2. The level measuring instrument operating with microwaves as claimed in claim 1, in which the microwave generator (13) is arranged directly on the antenna (9, 9a).
- 5 3. The level measuring instrument operating with microwaves as claimed in claim 1, in which the microwave generator (13) is connected to the antenna (9) by means of a passive waveguide (33).
- 10 4. The level measuring instrument operating with microwaves as claimed in claim 3, in which the passive waveguide (33) is a hollow waveguide.
- 15 5. The level measuring instrument operating with microwaves as claimed in claim 1, in which a product comprising an aperture of the antenna and a wavelength of the microwaves is much less than 500 mm<sup>2</sup>.
- 20 6. The level measuring instrument operating with microwaves as claimed in claim 1, in which the filled product (11) is a bulk product, and in which the wavelength of the microwaves is in the order of magnitude of a mean particle size of the
- 25 bulk product or is less than this particle size.